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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,945	07/12/2001	Wolfgang Schmidbauer	608.0011USU	9346

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EXAMINER	
COLAIANNI, MICHAEL	
ART UNIT	PAPER NUMBER
1731	8

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

HG

Office Action Summary

Application No.	Applicant(s)
09/807,945	Schmidauer et al.
Examiner	**Art Unit**
Michael Colaianni	1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jul 12, 2001* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *15-28* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *15-28* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claim Rejections - 35 USC § 112

1.The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 23-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 23-28 are method claims which depend from an apparatus claim. This is deemed confusing.

Claim 23 refers to "said additional heating unit" which lacks antecedent basis.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wenckus et al. 4049384.

Wenckus et al. teaches a device for melting/refining glass which has a channel constructed by having a plurality of metal pipes connected to a cooling medium (Fig. 1 ref. no. 12) and an HF coil being assigned to the channel for input of HF energy to the melt (col. 5, lines 45-50, Fig. 5, ref. no. 81).

Wenckus et al. also teaches the pipes are shunted to one another and arranged in a U-shape to form the cage-like crucible (Fig. 1, ref. no. 12, 14, the distribution bustle 14 serves as the shunt and the pipes 12 are in the form of a square U-shape).

Wenckus et al. also teaches the pipes are joined together for the purpose of forming a shunt (Fig. 1, ref. no. 12 and 14).

Wenckus also teaches that the channel is thermally insulated in the upper space of the furnace (Fig. 8, ref. no. 98).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenckus et al. 4049384 in view of Bubon et al. 5383949.

Wenckus et al. teach applicant's claimed invention. See the §102(b) rejection for Wenckus' teachings. However, Wenckus does not teach providing an additional heating unit in an upper furnace space or the heating unit being a ceramic plate.

However, Bubon et al. teaches that it is known to provide ceramic plates, which are heated by burners, above glass melts to regulate temperatures of the melt (col. 2, lines 31-39). Moreover, the radition heat applied by Wenckus is applied to directly to the melt (col. 6, lines 55-59, Fig. 8), as is the heat applied by Bubon et al.

It would have been prima facie obvious at the time the invention was made to combine Boubon et al.'s teachings with Wenckus' device because Wenckus et al. teaches that the cover used by the radiates heat (col. 6, lines 55-59) and Boubon et al. uses a radiation plate to apply heat to the melt.

8. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenckus et al. 4049384 in view of Masakiyo JP 57-095834.

Wenckus et al. teach applicant's claimed invention. See the §102(b) rejection for Wenckus' teachings. However, Wenckus does not teach the separation of the coil into multiple coils.

However, Masakiyo teaches that it is well known to separate the coil into multiple coils to provide better control over the heating of the glass melt (Abstract). Moreove, placing a heat souce or insulation between the gaps in the coils would have been obvious to prevent the glass from excessively solidifying and clogging the furnace.

It would have been prima facie obvious at the time the invention was made to combine Masakiyo's teachings with Wenckus' device for melting glass for the reasons given in the body of this rejection.

9. Claims 23-24, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenckus et al. 4049384 in view of Pecoraro et al. 4792536.

Wenckus et al. teach applicant's claimed invention. See the §102(b) rejection for Wenckus' teachings. However, Wenckus does not teach using a reducing atmosphere to control the ferrous to ferric redox ratio.

However, Pecoraro et al. teach that it is well known to use a reducing atmosphere in glass making to control the ferrous to ferric redox ratio when making infrared absorbing glasses (col. 3-4, lines 60-68, 1-10). Pecoraro et al. also teaches that a carbon oxide atmosphere is present during the glass making process (col. 6, lines 65-68). However, Pecoraro et al. does that any number of coloring agents maybe added to the glass composition (col. 10, lines 56-58). The Examiner takes

Official Notice that Se is a known glass coloring agent. Operating under the reducing conditions would obviously affect the redox state of Se as well as Fe.

Thus, it would have been prima facie obvious at the time the invention was made to combine Pecoraro's teachings with Wenckus et al.'s device for melting glass because doing so would make Wenckus' device more versatile and because Wenckus teaches that the device is meant to be used for refractory semiconductor glasses which utilize many exotic elements that require reducing conditions (col. 1, lines 26-33).

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenckus et al. 4049384 in view of Pecoraro et al. 4792536 and Geffcken 3127155.

Wenckus et al. in view of Pecoraro et al. teach applicant's claimed invention. See the §103(a) rejection for Wenckus' in view of Pecoraro et al.'s teachings. However, Wenckus in view of Pecoraro does not teach forming a fluorophosphate glass.

However, Geffcken teaches that it is well known to use a sealed cold crucible container for forming fluoride glasses (col. 3, lines 36-49). It would have been obvious to use the device with fluorophosophate glasses given Geffcken's teaching that it is known to use a cold crucible to prevent vaporization of the fluoride dopants.

It would have been prima facie obvious at the time the invention was made to combine Geffcken's teachings with Wenckus et al. in view of Pecoraro et al.'s teachings for the reasons given the body of the rejection.

11. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenckus et al. 4049384 in view of Pecoraro et al. 4792536 and Braglia et al. 6014403.

Wenckus et al. in view of Pecoraro et al. teach applicant's claimed invention. See the §103(a) rejection for Wenckus' in view of Pecoraro et al.'s teachings. However, Wenckus in view of Pecoraro does not teach the subject matter of claim 27.

However, Braglia teaches using a cold crucible device to form zirconate glasses (col. 2, lines 35-37). Given Braglia's teaching to use zinc compound glasses in cold crucibles it would have been obvious to use the glasses with Wenckus in view of Pecoraro's device because any glass composition would be treatable by the device, thus expanding the devices versatility and usefulness.

It would have been prima facie obvious at the time the invention was made to combine Braglia et al.'s teachings with Wenckus in view of Pecoraro's device/method for the reasons given in the body of the rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Colaianni whose telephone number is 703-305-5493. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (703) 308-1164. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7115.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Art Unit 1731
March 20, 2003

MICHAEL COLAIANNI
PRIMARY EXAMINER